UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,656	11/19/2003	David R. Cheriton	CIS0197US	7668

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EXAMINER
POLTORAK, PIOTR

ART UNIT	PAPER NUMBER
2134	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)	
Office Action Summary	10/716,656	CHERITON, DAVID R.	
	Examiner	Art Unit	
	Peter Poltorak	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 December 2006</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28,30-49* is/are rejected.

7)☒ Claim(s) *29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>3/24/05</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-49 have been examined.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-49 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Computer software must be embodied on computer readable media. Note, that claims 1-7 do not preclude the device to be implemented in software, especially in light of the specification stating that "...preferred embodiment includes steps executed by software modules..." [068]. Furthermore, claims 10-12 and 14-15 are essentially (the most) manipulation steps with no tangible and usable outcome. As addressing the rejection, note that claims 11-12, 14 and 19 use positive recitations that speculates that a particular method step could be, and not actually is, performed. Similarly claims 1-2, 5-9 provide no useful result. Compare it with claim 3, for example, which discloses conveying classified packets through a tunnel.

3. Claims 3-4, 23, 26-29, 33, 36, 43 and 46 are rejected by virtue of their dependence.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as failing to set

forth the subject matter which applicant(s) regard as their invention. The term "a

tunnel classification stage" recited in the claim language is not understood. The

specification does not offer any clear definition of the term and the closest reference,

points to Fig. 4 (paragraph [0016]: "block diagram illustrating a tunnel classification

stage"). Fig. 4, discloses Ingress-Side Tunnel Classification Stage 400, which

illustrates a sequence of events: Incoming packet Stream 410 processed by a

Tunneled Security Group Device 430 to produces the outcome of Outgoing Packet

Stream 420. However, the claim language (see claim 2 and 5, for example) appears

to refer to the tunnel classification stage as a component of the network device

recited in preamble of claim 1 (e.g. "...said tunnel classification stage comprises: a

packet processing section..."). Since the specification do not clearly define the term

"a tunnel classification stage", and in fact appears to contradict the claim language

(Fig. 4 rather than any particular object in the figure, is referred to as illustrating a

tunnel classification stage), for purpose of the further examination the term is treated

as best understood.

As addressing the "tunnel classification stage", note that claim 1 is an apparatus

claim. If the "tunnel classification stage" was to be interpreted as Fig. 4 suggests,

note that it would not be clear whether applicant intended claim 1 (and dependent

claims) to be an apparatus claim or method claim.

5. Claim 6 is not understood. It is not clear whether the limitation implies that the network device is a router or whether the claim is incomplete, e.g. a network device is a set of computer devices, including a router.

6. The phrase: "... forward said packet through a tunnel on which said packet <u>is to be conveyed</u> based on said SGI", recited in claim 3, is not understood. For purpose of the further examination the phrase is treated as "... <u>is to be forwarded</u>...".

7. Claim 30 is directed towards a XXX

Claims 4 and 7-9 are rejected by virtue of their dependence.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-18, 20-28, 30-38, 40-48 and 46-48 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Applicant Admitted Prior Art (AAPA).

As per claims 1-2 and 5, AAPA teaches "network access technologies such as ... virtual private network (VPN) gateways and the like allow users access to a given protected network from a variety of access or entry points." [002] "Fig. 1 is a block

diagram illustrating a network 100 of the prior art and the components thereof, in which such authentication protocols are employed to authenticate users." [003] "These network paths, while they may traverse some or all of the same network devices (i.e., physical segments), the paths are conceptually separate (e.g., can be viewed as separate virtual paths), and are controlled separately using, for example, access control lists (ACLs)." [004]

9. This reads on packet processing and classifying a packet. Also, this clearly indicates that there must be some parameters identifying particular entities initiating a packet, otherwise a particular packet received from the user could not be controlled (identified and classified to) against a corresponding ACL's entry. For example, note paragraph [004] disclosed by AAPA that teaches ACL using mapping of a user host address. Furthermore, paragraph [002] teaches that access can also be restricted based on the Group(s) to which a user belongs (which is consistent with various access control lists known in the art (e.g. Microsoft Windows)). This parameter used to identify and classify received pockets against ACL entries reads on a security group identifier (SGI). Note, that a network device facilitating discussed above functionalities, which essentially equate to packet filtering, must use a processor and utilized at least packet processing (able to receive packets) unit, SGI identification unit and classification unit.

10. The limitations of claims 3 and 4 are implicit. ACL are to restrict traffic in order to forward only allowed packets to their destination. Also, packet headers comprise destination information (see TCP/IP for example).

11. As per claims 6, although AAPA does not disclose that the device implementing the ACL (identifying and classifying packets) is a router, the examiner points out that a particular name of the device would not affect the functionality of the discussed operation of the device. Furthermore, a router disclosed in Fig. 1 is a device that directly connects the subnetwork comprising clients 112, 114 and 116 with other network using the ineternetwork and implementing ACL on devices directly attached to a external network are well known in the art (firewalls) and one would have been motivated to implement ACL at the entry point to a network in light of the benefits of this architecture as evidenced by their commercial success.

12. As per claims 7-8, a module utilizing ACL reads on a lookup unit. The examiner points out that in order for the entries to be indexed against ACL they must be stored in a memory (e.g. RAM) of a device, and memory is accessed using memory address. Additionally, the examiner points out that modern computer devices frequently utilize virtual memory, which also would meet limitations of claim 8.

13. Claims 10-14, 20-24, 30-34 and 40-44 are substantially equivalent to claims 1-8. Thus, claims 10-14 and 16 are similarly rejected.

14. The limitations of claims 16-17, 26-27, 36-37 and 46-47 are implicit. As discussed above, the purpose of ACL is to forward only permitted packets, discussed above, based on SGI. Packets that are not forwarded will not reach any egress routers and thus will not be forwarded by egress routers toward the final destination, such as server 120 in Fig.1.

Additionally, using a second interpretation of the claimed limitations, the examiner

points out that Ingress and Egress Router disclosed in Fig. 1 are devices connecting

a particular network (subnetwork) with external networks (other subnetwork using

Internetwork). Implementing ACL restricting bidirectional traffic (outgoing as well as

incoming) on devices connecting an internal network with external network devices

(such as Routers in Fig. 1), is well known in the art of computer security (see

firewalls), and it would have been obvious to one of ordinary skill in the art at the

time of applicant's invention to determining by the external/receiving router (egress

router) given the benefit of security.

15. As per claims 9, 15, 18, 25, 28, 38b 45 and 48, AAPA does not explicitly disclose

that ACL comprises ACL entries (ACEs) and that ACEs comprise a security group

identifier field. However, ACLs are essentially databases that are search for

particular entries, and because they are used, as discussed above, to process

packets based on a security group identifier, an ordinary artisan would readily

recognize that a field containing security group identifier must be present in the ACL.

Furthermore, AAPA does not disclose that ACL comprise a tunnel identifier field.

However, an IP address associated with the particular tunnel or a port assigned to

the tunnel (e.g. VPN (e.g. 500 for ISAKMP/IKE, 1701 for L2TP or 1723 for PPTP)

would read on a tunnel identifier field. Including a tunnel identifier fields (e.g. ports or

IP addresses) is old and well known in the art of computer security (e.g. in firewalls),

and using ACL with a tunnel identifier field would have been obvious to one of

ordinary skill in the art at the time of applicant's invention given the benefit of

network traffic control.

Conclusion

Claim 29 is objected to as being dependent upon a rejected base claim, but

would overcome the art of record if rewritten in independent form including all of the

limitations of the base claim and any intervening claims. Although overcame prior art,

claims 19, 39 and 49 are rejected under 35 U.S.C. 101.

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

Boden (USPN 6643776),

Ylonen (USPN 6438612),

Rekhter (USPN 6526056),

Hoke (USPN 6701437),

Jason (USPN 7028332),

Weiss (USPUB 20020144144),

Chantrain (USPUB 20020002687),

Mukherjee (USPUB 20040225895),

Daude (USPUB 20040088542).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Signature

8/23/07

Date

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER